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Application No. 09/465,133  
Amendment Dated 10-13-2004

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**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

Claims 100 – 143 (previously canceled).

Claim 144 (currently amended): A method of regulating expression of a desired protein or RNA in a non-human transgenic animal in vivo, the method comprising:

administering to the transgenic animal a pharmacological dose of a ligand, wherein the ligand is an antagonist for a non-mutated steroid hormone receptor protein,

wherein the transgenic animal comprises:

(a) a nucleic acid encoding a molecular switch comprising a mutated receptor protein, wherein the mutated receptor protein comprises:

a non-steroid hormone receptor DNA binding domain which binds a promoter that is transcriptionally linked to a target gene;

a mutated ~~steroid hormone receptor superfamily~~ progesterone receptor ligand binding domain which is distinct from a naturally occurring ligand binding domain by one or more alternations in from about 1 to about 54 naturally occurring carboxyl terminal amino acids of the ligand binding domain that reverse a ligand specificity of the receptor and confer activation by the antagonist;

a transactivation domain which causes a transcription from the promoter when the molecular switch is bound to the promoter and the ligand; and

(b) a target gene transcriptionally linked to the promoter,

wherein the nucleic acid encoding the molecular switch protein is expressed in the transgenic animal and administration of the ligand regulates expression from the target gene.

Claim 145 - 146 (cancelled)

Claim 147 (currently amended): The method of claim 144, wherein the target gene and promoter are encoded on a nucleic acid cassette that has been introduced into the transgenic animal.